



State Medicaid Health Information Technology Plan

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1 EXECUTIVE SUMMARY

The goal of the Commonwealth of Kentucky's Cabinet for Health and Family Services (CHFS), Department for Medicaid Services (DMS) is healthier Kentuckians. This State Medicaid Health Information Technology Plan (SMHP) Annual update outlines the strategic planning processes underway in the "As-Is" Kentucky Medicaid program and the envisioned "To-Be" in order to advance healthcare outcomes across the Commonwealth. It reflects both a vision and a specific goal that positively affects all Kentuckians' health, safety, and well-being.

The Medicaid Information Technology Architecture (MITA) 3.0 State Self-Assessment (SS-A) provides direction, along with the Standards and Conditions for enhanced federal funding issued by Centers for Medicare & Medicaid Services (CMS). It examines and affects the business, information, and technical architectures of DMS services and programs. In particular, the SS-A brought analysis of major programmatic changes within DMS, examined the "As-Is" Health Information Technology (HIT) landscape, and provided guidance for the "To-Be" HIT landscape for the Commonwealth.

CMS approved the addendums documenting the Kentucky State Level Repository (SLR) system modifications for Meaningful Use (MU) Final Rules. The Commonwealth maintains the following appendices, which are available for review upon request:

- Appendix B: "KY State Level Repository Screen Shots for Meaningful Use Stage 1"
- Appendix C: "KY State Level Repository Screen Shots for Meaningful Use Stages 1 & 2"
- Appendix D: "State Medicaid Health Plan Certified Electronic Health Record Technology, Program Year 2014 Flex Rule"
- Appendix E: "KY State Level Repository Screen Shots for Meaningful Use Modification Stage 2 and Stage 3 Rule Program Year 2015"
- Appendix F: "KY State Level Repository Screen Shots for Meaningful Use Modification Stage 2 and Stage 3 Rule Program Year 2016"
- Appendix G: "KY State Level Repository Screen Shots for Meaningful Use Modification Stage 2 and Stage 3 Rule Program Year 2017"

SECTION A: KENTUCKY'S "AS-IS" HEALTH INFORMATION TECHNOLOGY LANDSCAPE

2 Electronic Health Record Adoption Information Environmental Scan

In 2017, an environmental scan was performed to update information from the previous 2008, 2012, and 2015 surveys on the adoption of HIT across Kentucky. Objectives from the 2017 survey are as follows:

- assess the use of HIT by providers involved in transitions of care,
- assess the readiness of healthcare facilities in Kentucky to report quality data and utilize it for process improvement, and
- assess electronic health record (EHR) adoption by healthcare providers in areas of known changes since the 2015 environmental scan.

The environmental scan conducted in 2017 builds on previous work. The focus of the scan is on the adoption of EHRs in Kentucky and the readiness of selected healthcare organizations involved in transitions of patient care to report and use metrics to improve quality. In Kentucky, EHR adoption is reported to be high among all healthcare facility types except for public health departments and psychiatric hospitals. The two biggest barriers identified to utilizing quality metrics in a meaningful way are:

1. A lack of adequate infrastructure, and
2. A well-established and representative quality metrics.

The lack of quality metrics that truly reflect quality affects MU in a majority of healthcare facility types. Many facility types (except home health, physician practices, and long-term care) did not report benchmarking quality metrics, either with themselves or within systems; thus, impeding their ability to improve processes. Every healthcare facility reports quality metrics to payers as a requirement of reimbursement; however, fewer facilities publicly report quality metrics. Much of the publicly reported data is in an aggregate format which may not be useful for potential patients. The lack of adequate infrastructure, employees trained to use EHRs, and quality measures that truly reflect quality are all reported as barriers for community mental health centers, inpatient rehabilitation facilities, psychiatric hospitals, and public health departments.

2.1 Broadband Internet Access

For the general population, access to affordable high-speed internet services remains an obstacle in many rural areas of Kentucky. One initiative under way is KentuckyWired, (which is managed by the Kentucky Communications Network Authority) a partnership between the Commonwealth, the private sector, and major stakeholders such as the Center for Rural Development in Somerset, Kentucky. This project entails deploying more than 3,000 miles of dark fiber to all areas of the Commonwealth providing low cost "middle mile" and backbone services. Proceeds from both public and private/commercial sales or leases of this bandwidth will be used to reduce operational and maintenance costs and allow expansion at an affordable rate.

2.1.2 Mapping

The national broadband availability mapping project completed in 2014 provided information about the concentration and locations for various broadband categories including digital subscriber line (DSL), cable, fiber, fixed wireless, and mobile wireless. The maps are found at <https://www.broadbandmap.gov/summarize/state/kentucky/>.

This project was a federally funded project that lasted for five years. Kentucky did not continue with the broadband mapping project after the federal funding ceased in 2014.

Federal Communications Commission (FCC) continues to meet its statutory requirements to annually "initiate a notice of inquiry concerning the availability of advanced telecommunications capability to all Americans (including, in particular, elementary and secondary schools and classrooms)" and issues annual reports based on its most recent findings. Statistical data can be found at <https://docs.fcc.gov/public/attachments/DOC-349000A1.xlsx>.

2.1.3 Data for Broadband Categories

As of December 2016, the FCC reported the following population's percentages for fixed and mobile wireless megabits per second (Mbps) for Kentucky.

- 85.80% of population with Fixed 25 Mbps/3 Mbps
- 97.10% of population with Mobile 5 Mbps/1 Mbps
- 84.20% of population with Fixed and Mobile

In its 2014 National Broadband Map publication, the FCC reported:

- DSL broadband has the highest wireline availability and is available to at least 86% of Kentucky's population. Consumer DSL service typically ranges from 1 – 20 Mbps.
- Mobile wireless broadband provides broadband to the highest percentage of Kentucky's population, with 99% having access. Mobile wireless service typically ranges from 5.5–20 Mbps.
- Cable broadband is available to 78% of Kentucky's population. Consumer cable broadband service typically ranges from 10–50 Mbps.
- Fixed wireless broadband has the fourth highest availability in Kentucky. Fixed wireless service typically ranges from 1–10 Mbps.
- The fiber-optic broadband category is only available to 11% of Kentucky's population. Fiber-optic service typically ranges from 20–100 Mbps.

The broadband availability comparison generated by the FCC in June 2017 identifies Kentucky remaining behind the national average in relation to the percentage of population with broadband cable and fixed wireless providers with $\geq 10/1$ Mbps, $\geq 4/1$ Mbps, and $\geq 0.2/0.2$ Mbps. Additional broadband deployment comparison reports can be located at <https://broadbandmap.fcc.gov>.

The 2008 University of Kentucky environmental scan noted that internet connection did not appear to be a barrier to EHR and Electronic Medical Record (EMR) implementation. This is further supported by the 2010 Kentucky Medical Association Rural Adoption Survey, which found that 90% of providers in the 40 rural counties reported broadband access (DSL, cable modem, or faster). Bandwidth is a critical concern, especially in Kentucky's rural areas, as demand for high-speed access and the volume and size of data transfers increase.

Similar to the environmental scan findings, broadband access does not appear to be a major issue for Kentucky providers. Ninety-six percent of all provider respondents reported having access to broadband services. All medical and healthcare community anchor institutions (CAI) report they subscribe to broadband, with approximately 40% of medical and healthcare CAIs reporting download speeds of 1.5–3 Mbps, approximately 23% reporting download speeds of 3–6 Mbps, and approximately 28% reporting download speeds of 6–10 Mbps.

A variety of other public and private entities were awarded broadband grants through the American Recovery and Reinvestment Act (ARRA) of 2009 that should aid in making services more widely available across the Commonwealth. These grants support diverse activities, including infrastructure expansion, enhancement of digital and general education, literacy, and greater community access to computers and computer services. Table 2 reflects a listing of these awards and types.

Table 2. Grant Award and Type

Type	Total Award	Grantee
Infrastructure	\$535,308	City of Williamstown, Kentucky
Sustainable Adoption	\$28,519,482	One Economy Corporation
Sustainable Adoption	\$18,701,771	One Community
Infrastructure	\$62,540,162	University Corporation for Advanced Internet Development
Sustainable Adoption	\$14,988,657	Communication Service for the Deaf, Inc.
Public Computer Centers	\$392,000	Boat People SOS, Inc.
Public Computer Centers	\$1,349,826	Kentucky Arts, Education & Humanities Cabinet
Broadband Data & Development	\$5,302,717	Commonwealth of Kentucky Office of Technology
Public Computer Centers	\$743,741	Louisville-Jefferson County Metro

2.1.4 Next Generation Kentucky Information Highway

The Next Generation Kentucky Information Highway, commonly referred to as KentuckyWired, is a high-speed, high-capacity fiber network. It affects many aspects of life and daily interactions of citizens, health care providers, public safety responders, educators, and business in the Commonwealth.

Recent studies by the Director of Kentucky TeleCare at the University of Kentucky, College of Medicine indicate that approximately 65% of Kentucky's counties are designated as Health Provider Shortage Areas. Kentucky TeleCare is a network of nine rural community healthcare facilities and represents a consortium of four interconnected telemedicine networks. To alleviate this shortage of available health provider and consumer internet access, the Kentucky TeleCare program management office, in association with the U.S. Department of Agriculture, Centers for Rural Development and Shaping our Appalachian Region, has proposed the development of an integrated, statewide, fiber-optic network. KentuckyWired will improve the quality, reliability, usability, and access to shared network services, systems, and information across the Commonwealth.

2.1.5 Objectives and Beneficiaries

Healthcare providers and other entities cannot share health data without broadband; it is the 'highway' for health information. Once complete, the KentuckyWired network will consist of more than 3,000 miles of fiber-optic cable within the Commonwealth and provide the necessary broadband capacity for Health Information Exchange (HIE). The capabilities inherent in KentuckyWired will support Kentucky's next generation electronic HIE core components, including a Master Client Index (MCI), record-locator service, security, provider-user authentication, logging, audits, and alerts. To facilitate this fiber-optic infrastructure a new, open-access middle-mile fiber-optic network will be constructed. This fiber-optic infrastructure plan will be implemented in six phases based on location rings with the eastern Kentucky locations representing priority phases. To ensure a timely statewide deployment, Kentucky envisions implementing

these rings concurrently. The operations and maintenance team will support the rings after they are complete and online.

2.1.6 Proposed Phase Corridors

- Phase 1 – Ring 1A - the Golden Triangle – Lexington, Louisville, and Cincinnati:
 - This phase will provide a 288-fiber strand trunk line connecting three cities and connect to individual government and education sites. Ring 1A will benefit research and development for education healthcare sectors as well as allowing Kentucky's major hospitals and universities to collaborate with other physicians and educators around the globe. The target completion date for Phase 1 is July 2020.
- Phase 2 – Ring 1B - Eastern Kentucky – Appalachian Region Beltline:
 - An Appalachian region beltline fiber-optic trunk line and laterals will be constructed throughout eastern Kentucky from Somerset to London, Corbin, Hazard, Prestonsburg, and Ashland. The target completion date for Phase 2 is July 2020.
- Phase 3 – Ring 2 will connect Pikeville, Harlan, and Pineville to the I-75 corridor.
 - This area is composed of Kentucky's most rural counties with terrain that is a challenge for accessibility and redevelopment. The target completion date for Phase 3 is July 2020.
- Phase 4 – Ring 3 - I-65 Corridor - Central Kentucky – Frankfort and Elizabethtown:
 - The plan for a 288-optic strand trunk line will pick up at Lexington and connect Frankfort to Louisville, then connect to Elizabethtown and Bowling Green. Multiple government and education sites within this region will be connected. The lower loop of Ring 3 will extend from Somerset through Glasgow to connect with Bowling Green. The target completion date for Phase 4 is August 2020.
- Phase 5 – Ring 4 – Western Kentucky – Hopkinsville, Murray, Paducah, Madisonville, Henderson, and Owensboro:
 - The western region of the Commonwealth is connected to the I-65 corridor by Bowling Green and Elizabethtown. With the completion of Ring 4, all of Kentucky will be positioned to access a high speed, high capacity, and open access fiber infrastructure ultimately allowing Kentucky businesses to compete in the global economy as depicted in Figure 2. The target completion date for Phase 5 is October 2020.
- Phase 6 – Ring 5 - Northeastern Loop – Lexington, Winchester, Morehead, Ashland, Maysville, and Highland Heights:
 - The northeastern loop trunk line will connect the I-75 corridor at Lexington to Winchester, Morehead, and Ashland. From Ashland, it will loop up to Maysville and Highland Heights to Cincinnati. Ring 5 will provide the additional bandwidth to ramp up this area of Kentucky. To ensure all of the eastern portions of the state were completed together, the

phase corridors were reordered, causing Phase 6 to complete prior to Phase 5. The target completion date for Phase 6 is August 2020.

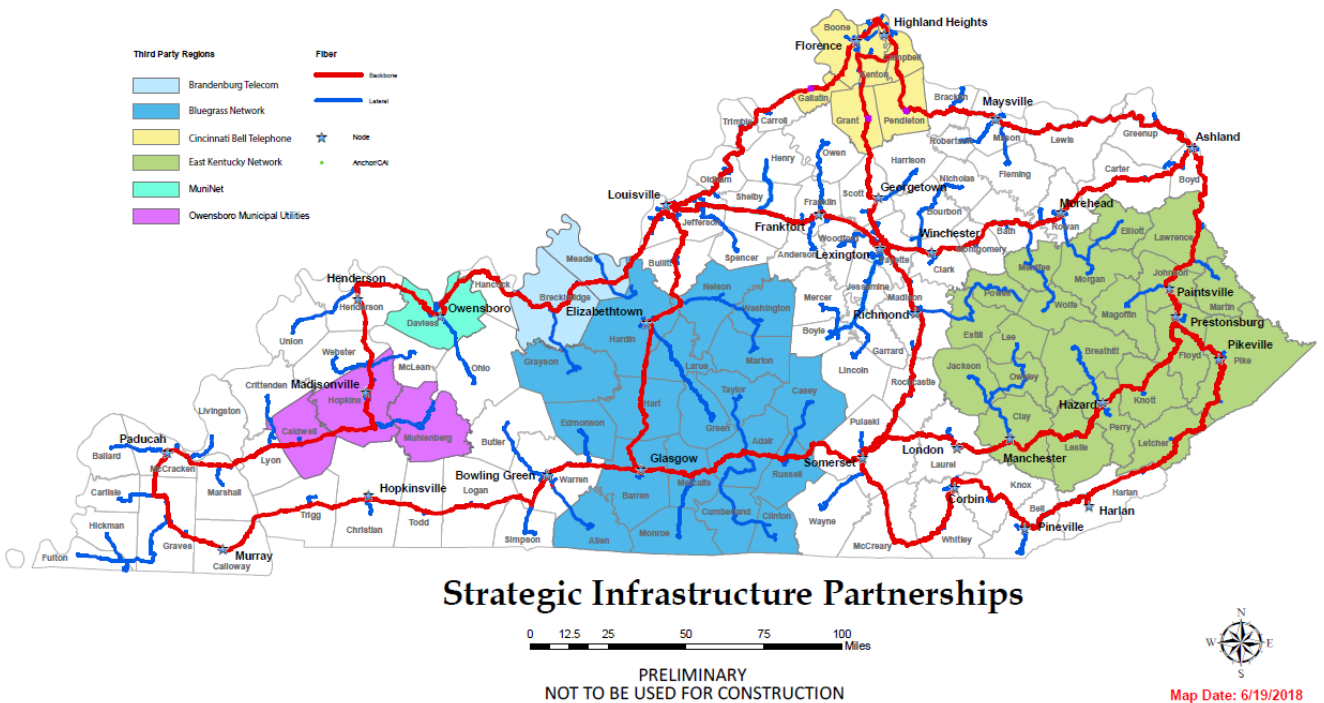


Figure 2. KentuckyWired Network Map

2.1.7 Implementation Schedule

The estimated time for completion of the project was 30 months. A kick off occurred on September 3, 2015. The engineering and implementation phases have extended past their projected durations. The completion date is now anticipated for October 2020.

2.1.8 Outputs

Deploying this fiber network with collaborative partnerships will expand opportunities and possibilities by supporting next generation applications within healthcare, emergency response organizations, 911 services, education, government, Homeland Security, and others. The benefits are as follows:

- Expanded use of telemedicine applications by hospitals and healthcare providers;
- Improved rural broadband connectivity to economically depressed areas, thereby creating new job opportunities for these communities;
- Creation of a “Next Generation 911” network, a digital internet protocol based system with the capacity to receive and transmit voice, text, data, and video in 911 communications;
- Creation of a public safety and First Responder Network Authority (FirstNet) to link law enforcement, Homeland Security, and first responders;
- Consolidation and cost reductions regarding the delivery of network services to Kentucky citizens;
- Increased monitoring capabilities including real-time video monitoring of critical infrastructure such as bridges, roads, and power plants;

- Reduction in future expenses of increasing network bandwidth to citizens;
- Enhanced online learning opportunities;
- Enhanced access to cloud computing and service offerings;
- Enhanced connectivity for libraries and communities; and
- Lowered cost of fiber to the tower infrastructure for commercial wireless providers.

2.2 Federally Qualified Health Centers

HIT status of Federally Qualified Health Centers (FQHC) in the Commonwealth is currently accessible through **Kentucky Health Information Exchange (KHIE)** data. There are **25** FQHCs in Kentucky representing **more than 250** provider locations. KHIE has signed participation agreements with all of the FQHCs and 68% of these centers are live and sharing data with KHIE (primarily for public health reporting). These locations utilize ten different EHRs with varying degrees of interoperability. **As of May 2018, five** EHR vendors have not been able to connect to KHIE.

In 201**2**, FQHCs **operating** in Kentucky organized to apply for grant funding from Health Resources and Services Administration (HRSA) to develop a Health Center Controlled Network. **In 2012, the group received a grant award** establishing the KY Health Center Network (KHCN) as a 501(c)(3) non-profit organization. KHCN is comprised of **25 member organizations**, including one with headquarters in Tennessee, **one with headquarters in Arkansas**, and an FQHC look alike located in Kentucky. KHIE provided a letter of support and commitment to assist the KHCN in achieving deliverables related to MU, public health reporting, and HIE. The 2015 environmental scan identified technical assistance for Medicaid providers within this group. KHIE provides status update reports to the KHCN leadership on a regular basis in support of grant deliverables.

The KHCN's mission is to sustain its Kentucky Community Health Center members and their capacity to provide quality patient services regardless of insurance status or other economic and demographic factors, to institute best practices, and to leverage HIT to improve quality and provide access to primary ambulatory health care. To learn more about KHCN you may visit the website at <http://www.kyhcn.org>. The following are some key activities KHCN has accomplished since **2012**:

- **Increased membership organizations from 18 to 25.**
- A secure member-sharing site for sharing tools, resources, and best practices was implemented.
- A **data warehouse (DW)** was deployed, utilizing i2i's PopIQ, **which is a cloud-based comparative analytics tool**. **Seventeen member organizations are currently connected.** **Nine** members **also use i2i** Tracks—a population health management solution.
- HIT strategic planning was supported by arranging for the revalidation of data in accordance with 42 **Code of Federal Regulations (CFR)** §424.515, providing information on how to maintain data integrity, facilitating an exclusive webinar with KHIE, furnishing a security risk assessment for all members, and providing MU consultation and support to all member organizations.

2.3 Veterans Health Administration and Indian Health Services Electronic Health Record Use

Indian Health Services (IHS) providers are not represented in this plan, as there is no presence for IHS in Kentucky. KHIE is in active engagement with the Veterans Health Administration working on an eHealth Exchange connection. The connectivity work is currently on hold until the new HIE solution is in place, with an estimated start date being the second quarter of 2019. This connection will allow for query of the Veterans Health Administration for veteran records by a query to KHIE.

2.4 Health Information Technology/Exchange Engaged Stakeholders

CHFS engages with a variety of stakeholders to expand EHR adoption by Medicaid providers in the Commonwealth. Public and private entities compose this stakeholder group and contribute in a variety of ways to the task of improving the healthcare of Kentuckians using EHRs.

A strong public-private partnership in which each stakeholder accepts responsibility and commits to the effort is required to support a venture of this magnitude. As part of the HIE governance structure in Kentucky, KHIE has a Coordinating Council comprised of 24 individuals from key organizations around the Commonwealth. The Coordinating Council includes three committees, Clinical Advisory, Privacy & Security, and Business Development & Finance. The Coordinating Council acknowledges the role of state government in assuring statewide access to HIE to support MU while being mindful of the fact that government cannot do it alone.

The Kentucky Department for Public Health (DPH) defers all electronic public health reporting requirements for MU to KHIE, which acts as the intermediary for DPH data collection and reporting registries. These registries are the Immunization Registry, Centers for Disease Control and Prevention (CDC) National Syndromic Surveillance Program (NSSP) BioSense Platform, the Kentucky National Electronic Disease Surveillance System (NEDSS), the Kentucky Cancer Registry (KCR), KHIE Advance Directive Registry, and KHIE as a registry.

The local health departments are a critical provider of indigent healthcare at the local level. Currently 98% of the local health departments have signed participation agreements with KHIE; several of them have onboarded for direct secure messaging (DSM) services and many have access to the KHIE Community Record.

CHFS collaborates with two Regional Extension Centers (REC) serving Kentucky. Both, the Kentucky Regional Extension Center (KY REC) and the Kentucky Rural Health Information Organization perform outreach and technical support in their perspective geographic areas. These organizations provide a full range of services to support the adoption of EHRs and achievement of MU by Kentucky Medicaid providers. These services are as follows:

- Non-returning provider recruitment (new provider recruitment closed 2016 per CMS),
- Education and outreach,
- Implementation and project management,
- Vendor terms development,
- Vendor issue resolution,

- HIE interoperability facilitation,
- Privacy and security support,
- Practice readiness assessment,
- MU achievement support, and
- Local workforce support.

The Kentucky Office of Health Data and Analytics (OHDA) staff is also providing direction and technical support to DMS by promoting the use of HIT in Community-Based Long-Term Services and Supports (CB-LTSS) systems. The goals of this project are to develop a work plan and timeline to accomplish for Testing Experience and Functional Tools (TEFT) components. The timing of this project coincides with changes across Kentucky's Medicaid HIT enterprise to automate Medicaid waiver programs. In addition to automation of agency workflows, these changes also utilize HIE in waiver case management and healthcare delivery to citizens served through Medicaid waivers.

2.5 Health Information Technology/Exchange Relationships with Outside Entities

KHIE continues to work toward building and expanding a robust HIE that spans the Commonwealth and beyond state borders. KHIE has deployed the XDS.b functionality using the Integrating the Healthcare Enterprise (IHE) profiles. This allows providers across the Commonwealth and state lines to query and pull consolidated summary of care documents, thereby enhancing interoperability and improving care transitions.

KHIE continues to offer Direct Trust accredited Health Information Service Provider (HISP) services to providers across the state to support the HIE objective for MU and better coordinate healthcare. KHIE continues to offer support to “white space providers” (providers that do not have an EHR), by providing access to the community portal and the DSM portal. This implementation aligns with the Health Information Technology/Exchange (HIT/E) goals that the State Medicaid Agency (SMA) expects to achieve.

2.6 Health Information Exchange Presence in Kentucky

KHIE resides within the CHFS OHDA and is the state-designated HIE for the Commonwealth. KHIE continues to be the public health authority for MU in the Commonwealth and routes public health data to the appropriate federal, state, and local entities.

KHIE provides the technical infrastructure to allow for data exchange with healthcare facilities, provider EHRs, and existing or emerging Regional Health Information Organizations (RHIO) across the Commonwealth. Oversight and development of KHIE is within CHFS, which facilitates communication and collaboration with the Kentucky Medicaid EHR Incentive Program (Promoting Interoperability). KHIE is a full service, multipurpose network that not only provides a bi-directional HIE but also serves as a data intermediary for all electronic public health reporting in Kentucky.

The goal of KHIE is to assure that all providers, regardless of their level or choice of technology, have access to at least one option to support HIE and to achieve the functionality required for MU attestation. The hybrid framework is a vendor and technology agnostic software, with the focus on enabling optimal connectivity and

interoperability and the functionality to support all stages of MU. Currently KHIE includes clinical data and functionality as follows:

- patient demographics,
- lab results,
- radiology and transcription reports,
- historical patient diagnoses,
- medications,
- procedures and dates of service,
- hospital stays,
- reporting to the state immunization and cancer registries,
- reporting of syndromic surveillance data,
- reportable labs and diseases, and
- **community health record** for healthcare coordination.

A patient's **community health record** on KHIE is available through a **Continuity of Care Document Architecture**. Access is determined by **role-based security**. Records within KHIE are seeded with six years of Medicaid claims data.

Key projects currently in process with KHIE include the following:

- Onboarding for public health reporting: KHIE is actively onboarding providers for immunizations, syndromic surveillance, reportable labs, and cancer reporting to meet MU requirements.
- DSM: Over 400 locations are currently live with DSM with additional providers in the work queue.
- KHIE has been working with the behavioral health community for years to securely integrate behavioral health records in the HIE (including alcohol and substance abuse). The non-disclosure language required additional development work in the provider EHRs as well as KHIE. This work has been completed and currently there are **84** Community Mental Health Centers live and sharing records on KHIE.
- The Department for Behavioral Health is implementing an EHR throughout their 14 state-owned facilities, including five acute psychiatric hospitals. KHIE is currently onboarding these facilities to the XDS.b platform for full bidirectional exchange.
- KHIE is a member of the Strategic Health Information Exchange Collaborative, the national trade association for HIEs. KHIE is participating in the Patient Centered Data Home (PCDH) Heartland initiative. PCDH Heartland initiative involves Kentucky with HIEs in Indiana, Ohio, Michigan, and East Tennessee. Patient information is shared based on zip code.
- KHIE is currently working with the Veterans Health Administration to exchange records through the eHealth Exchange (the Sequoia Project).
- KHIE is participating in an Opioid Workgroup appointed by the Governor that includes Behavioral Health, Medicaid, Public Health, Community-Based Services, and the Office of the Inspector General (OIG) (which includes the enhanced Kentucky All Schedule Prescription Electronic Reporting System [eKASPER]). **KHIE went live with the opioid overdose project in October 2017 and developed a mechanism where flags were enabled in the virtual health record (VHR) when eKASPER data was available on a queried patient.**

- KHIE continues to onboard providers for syndromic surveillance reporting with 915 points of care that are currently live and 194 in the queue. The KY Injury & Prevention Research Center, an agency of DPH, is monitoring this data to identify trends and patterns related to fatal and near fatal overdoses across the state.
- KHIE continues to work with correctional facilities across the state. The Fayette County Detention Center, Taylor County Detention Center, Boone County Detention Center, Kenton County Detention Center, and Louisville Jefferson County Metro Government Department of Corrections (which includes 12 facilities) are currently live.

As of August 28, 2018, 2,286 provider locations were submitting live data and actively exchanging information through 4,884 data feeds to KHIE. Approximately 98% of acute care hospitals are live with at least one data feed.

2.7 Role of Medicaid Management Information System in Health Information Technology/Health Information Exchange Environment

The overarching purpose of the SMHP activities is to move the Commonwealth from the “As-Is” HIT landscape to the desired “To-Be” landscape. This includes a comprehensive HIT Roadmap and strategic plan for the next five years. The SMHP identifies needs and objectives considered as Medicaid Management Information System (MMIS) related.

Kentucky’s MMIS is comprised of the DXC Technology interChange system. The system is a rules-based system that supports functions including, but not limited to, the following:

- member management,
- benefits administration,
- provider management (in the process of moving to Medicaid Partner Portal Application (MPPA)),
- third-party liability processing,
- service authorization and prepayment review processing,
- reference data maintenance,
- claims processing,
- encounter processing,
- financial processing,
- quality assurance and audits,
- early periodic screening, diagnosis and treatment processing,
- management and administrative reporting,
- surveillance and utilization review,
- case management,
- decision support system (DSS)/(DW),
- external data sharing and exchange, and
- enhanced claims editing.

The hardware platforms that support the current system are HP-UX and Windows. The current MMIS is supported by an Oracle and Microsoft SQL Server relational database management systems platform. The MMIS supports most aspects of Medicaid Provider Management. Provider Enrollment/Maintenance data is transferred between the MMIS and MPPA. The MPPA project schedule identifies the roll out to be complete in four

phases. Phase 1A focused on automating manual processes for the Division of Program Integrity (PI) within DMS and was successfully rolled out internally to DMS on August 7, 2017. Phase 1B consisted of pilot users of five credentialing agents and completed in January 2018.

During the 2018 Legislative Session House Bill 69 was signed into law and became effective on July 14, 2018. House Bill 69 is an ACT related to service delivery improvements in managed care networks and will require DMS to contract with a Credentialing Verification Organization to verify the credentials of providers on behalf of DMS and all managed care organizations (MCOs). The recent change in legislation, in conjunction with feedback from large hospitals, forced DMS to create an additional pilot phase, 1C. CHFS Executive Steering Committee is moving forward with a change request to allow credentialing agents to submit the applications on behalf of the provider, with appropriate documentation. Phase 1C is currently in progress and includes seven additional provider types and one medium hospital. The final rollout Phase 1D is currently in development. This phase is for remaining external users and will be completed in a staggered rollout by provider type by the 3rd quarter of FFY 2019 while mandating use of the system.

Components already implemented include an interface between the MMIS and the SLR and changes to the expenditure panels in the MMIS. These projects facilitate issuance of EHR incentive payments through the MMIS financial system, enhancing the expenditure panels to track and show the payments. This provides greater integration of financial processing and reporting and efficient use of HIT resources. The bridge interface between the SLR, KHIE, and the MMIS will continue to document attestation and incentive payment data. The MMIS interfaces with Integrated Eligibility and Enrollment System (IEES) to transfer eligibility and enrollment data such as level of care, third party liability, and prior authorization data in real-time, while the MMIS interfaces with Medicaid Waiver Management Application and Carewise system to share members levels of care and plan of care data.

There are more than 44,000 enrolled active providers offering health and family services to Kentucky Medicaid members. These provider types include, but are not limited to, the following:

- hospitals,
- nursing facilities,
- clinics, labs, and others,
- commercial vendors,
- licensed certified practitioners, and
- physical health MCOs.

The MMIS supports eligibility inquiries and claims submissions by communicating with value-added networks. EMRs or EHRs attached to a value-added network have the ability to check Kentucky Medicaid member eligibility from the MMIS. Claims adjudication capability exists for online direct-data entry provider users.

The MMIS supports various reimbursement methodologies for managed healthcare including Fee-for-Service (FFS) and capitation. In order to be considered for reimbursement for medical services rendered to an eligible Medicaid provider, a medical professional must be an enrolled provider in the Kentucky Medicaid Program and submit claims appropriately. The Commonwealth establishes capitation rates for

specific member eligibility categories. The MCO is paid the monthly capitation rate applicable to each member's eligibility criteria. The MCO is a risk-bearing entity, which funds the medical care provided by its network providers from the capitation payments.

Through an interface with the KY SLR, the Kentucky MMIS issues provider incentive payments. DMS is planning to incorporate EHR data to enhance and/or streamline many functions such as healthcare management, as well as developing policies and programs utilizing the clinical data realized from EHRs.

2.8 State Activities to Facilitate Health Information Exchange & Electronic Health Record Adoption

DMS uses the KY REC for provider outreach and technical assistance. The contract retains provisions to assist providers attesting to the **EHR Incentive Program (Promoting Interoperability)**. Described below are specific responsibilities under the KY REC contract:

- engage 400 Medicaid participating providers (MPP) for attestation services,
- conduct gap analyses,
- develop an action plan,
- provide group education, and
- provide attestation support.

As an extension of the EHR team, the KHIE Outreach Coordinators provide services, which include disseminating educational information and program requirements, to the DMS providers who are participating in the **EHR Incentive Program (Promoting Interoperability)**. Specifically, the Outreach Coordinators facilitate KHIE onboarding process for these providers so they have the necessary information needed to complete the intake process and submit the data sharing agreement. The Outreach Coordinators play an essential part in the management of this process for the DMS providers. Their role includes access management and maintenance, as well as hands-on training of the KHIE Community Record. **Access** to KHIE's Community Record **also assists** DMS providers **in meeting** Objective #5 HIE Care Coordination **if utilized appropriately**. This outreach and education is key for maintaining HIT related connections amongst the Commonwealth's HIE, REC, and **EHR Incentive Program (Promoting Interoperability)** teams, with the providers seeking to achieve MU in Kentucky.

2.9 State Medicaid Agency Relationship with Kentucky Health Information Technology Coordinator

The SMA's relationship to the State HIT Coordinator is a tight alignment in regards to the administration of the **EHR Incentive Program (Promoting Interoperability)**. The State HIT Coordinator resides within CHFS and is responsible for the KHIE program. The **EHR Incentive Program (Promoting Interoperability)** and KHIE are closely linked and work daily to develop a robust check and balance process to assure providers are complying with the **EHR Incentive Program (Promoting Interoperability)** requirements.

The State HIT Coordinator has organized a Kentucky Collaborative Workgroup that includes Medicaid, DPH, RECs, RHIOs, and Quality Improvement Organizations to work together on MU challenges and to ensure a consistent message is given to providers across the Commonwealth.

The State HIT Coordinator ensures the technical solutions for the HIE support the ability of DMS providers to achieve MU. This work also includes extending the solutions beyond MU to support goals outlined in the SMA's state plan amendment.

2.10 Other Activities that May Affect the Electronic Health Record Incentive Program

KHIE continues to deploy DSM and HISP services to participating providers as part of Kentucky's suite of HIE services. These added services support providers in need of DSM and HISP functionality to meet Modified Stage 2 and Stage 3 MU requirements for HIE. They also align the Kentucky HIE with other states offering DSM services, which facilitates the exchange of data across state borders. KHIE has confirmed with CMS that utilizing KHIE's "Platinum" connection standards, (i.e., XDS.b and Cross-Community Access) can fulfill the HIE requirement as well.

ARRA provides 100% federal financial participation (FFP) to states for incentive payments from CMS to eligible Medicaid providers to demonstrate MU of CEHRT through 2021. ARRA also provides 90% FFP for state administrative expenses related to the program. Expenditures related to the development and implementation of HIE are also eligible for the 90% FFP if the following conditions are met:

- costs are divided equitably across other payers (e.g., private/commercial) based on the Fair Share principle defined as "in accordance with benefits received" and are appropriately allocated;
- efficiencies are leveraged with other Federal HIE funding; and
- if they are developmental and time-limited in nature.

Enhanced funding is not available for ongoing HIE costs where these services are fully operational.

The last annual update to the HIT Implementation Advance Planning Document (APD) was approved in March 2018. Cost Allocation Methodologies (CAM) are used as prescribed by CMS. Specifically, the following two metrics are used to develop the CAMs used in funding requests:

- Provider volume, and
- Transaction volume.

2.11 State Law or Regulation Changes that Affect the Electronic Health Record Incentive Program

The last state law or regulation that affected the EHR was enacted in October 2016. The Reportable Disease Surveillance, 902 Kentucky Administrative Regulation (KAR) 2:020 requires Kentucky healthcare providers to submit reportable disease information electronically to the Kentucky DPH through KHIE.

2.12 Health Information Technology/Health Information Exchange Activities Across State Borders

KHIE completed certification with the Sequoia Project in early 2016. In addition to working with six other HIE's under the PCDH Heartland initiative, the West Virginia Health Information Network connection with KHIE went live on June 28, 2017.

2.13 Kentucky Health Information Exchange Interoperability with Public Health Surveillance

KHIE's interfaces with the Kentucky Immunization Registry (KYIR), NEDSS, and the NSSP BioSense Platform are intact and working. As previously mentioned, DPH defers all electronic public health reporting requirements for MU to KHIE. This includes the KYIR, syndromic surveillance, electronic laboratory reporting (ELR), the KHIE Advance Directive Registry, and KHIE as a registry. In addition, KHIE is the intermediary for routing data to the KCR.

2.13.2 Kentucky Immunization Registry

DPH completed the implementation of a new immunization registry in late 2015. The new registry continues to support MU and provides an upgrade of the integration between the KHIE and the KYIR. The upgrades provide bi-directional data exchange between providers and KHIE/KYIR.

2.13.3 Syndromic Surveillance

KHIE has completed 915 connections to providers across the state reporting syndromic surveillance data that is routed to the CDC NSSP BioSense Platform, while 194 points of care are in the onboarding queue. The DPH and the KY Injury & Prevention Research Center are working together to monitor the syndromic surveillance data to identify trends and patterns relative to the opioid epidemic currently occurring in Kentucky. Kentucky is proposing to offer syndromic surveillance as a Public Health Registry under Stage 3 MU.

2.13.4 Electronic Laboratory Reporting

ELR is now regulated under 902 KAR 2:020, which requires all healthcare facilities responsible for reportable diseases to report electronically through KHIE to DPH NEDSS. KHIE has completed onboarding of 77 hospitals with the remainder in the onboarding queue.

2.13.5 Kentucky Cancer Registry

KHIE is the data intermediary for the KCR. In October 2012, KCR was the first in the nation to receive a message from a provider's EHR through an HIE.

2.13.6 Kentucky Health Information Exchange Advance Directive Registry

KHIE provides Advance Directive Registry services for participants seeking to submit, electronically through DSM, the following Advance Directive documents:

- health care surrogate designation,
- living will directive, and
- advance directive for mental health treatment.

2.13.7 Kentucky Health Information Exchange Registry

KHIE provides registry services to participants who utilize software that is capable of querying KHIE for patient health information using IHE with XDS.b standards.

2.14 Health Information Technology-Related Transformation and Children's Health Insurance Program Reauthorization Act Grant Status

CHFS was awarded a Planning and Demonstration Grant for TEFT in CB-LTSS under which Kentucky OHDA staff provide direction and technical support to DMS. The goals of this project are to develop a work plan and timeline to accomplish four components of the grant as follows:

- field test an experience survey on multiple CB-LTSS programs for validity and reliability,
- field test a “modified” Continuity Assessment Record and Evaluation function assessment tool for use with beneficiaries of CB-LTSS programs,
- demonstrate use of personal health record (PHR) systems with beneficiaries of CB-LTSS, and
- identify, evaluate, and harmonize an electronic Long-Term Services and Supports Standard in conjunction with the Office of the National Coordinator’s (ONC) Standards and Interoperability Framework.

SECTION B: KENTUCKY’S “TO-BE” LANDSCAPE

3 Health Information Technology/Health Information Exchange Goals & Objectives

The overarching goal is meeting the challenge of MU. Stage 1 was data capture and sharing. MU Modified Stage 2 is aimed at support of advanced clinical process. Critical to MU Stage 3 are core objectives embodied in the “To-Be” landscape the Commonwealth envisions as systems, processes, and activities necessary to improve the quality of the healthcare delivery system in Kentucky. These objectives will set the stage for MU Stage 3 and ultimately achieve improved health outcomes in the Commonwealth. The Quality Health Information (QHI) initiative establishes the framework for integrating the Commonwealth HIT systems. The QHI supports and is in alignment with federal initiatives, which seek to integrate state HIT systems to produce improved healthcare outcomes on a national level.

Interoperability of HIT systems is essential for improving healthcare outcomes among the Commonwealth. CHFS is aligning interoperability of HIE system planning with the ONC’s roadmap (*Connecting Health and Care for the Nation: A Shared Nationwide Interoperability Roadmap, Final Version 1.0*). This document provides states with interoperability guidance. Kentucky will continue using it as a baseline for HIE system planning and development to ensure alignment with the federal roadmap and the healthcare industry.

The adoption and implementation of the IHE framework will enable Kentucky to leverage existing HIT assets. The framework calls for solutions to be developed with flexible architectures that can adapt to centralized, distributed, or hybrid requirements.

The enhancements CHFS plans for KHIE will enable better care coordination by Kentucky healthcare providers by ensuring patients and providers have correct and timely information when needed. CHFS is also expecting these enhancements to increase efficiency, improve healthcare quality, reduce errors, decrease duplicate tests or procedures, improve population health, and introduce effective patient engagement. Key

service delivery areas of healthcare such as chronic disease management, case management for patients undergoing lengthy procedures, rehabilitation, and homecare will realize substantial benefits from HIE.

Improved data technology, appropriate connectivity standards between health and human services systems, and programmatic initiatives reflecting data-driven strategy will all improve healthcare in the Commonwealth. The QHI framework, complemented by an achievable eHealth **Information Technology (IT)** architecture, is at the core of the initiative. The Commonwealth plans to extend the integration points of QHI to CHFS systems to enable MU and interoperability of EHRs.

QHI rests upon a service-oriented architecture (SOA) foundation that uses enterprise service bus functionality to construct meaningful business processes from reusable technical services. A business rules engine, security framework, master data management, analytics, and other highly leveraged capabilities are also envisioned as the foundation of QHI, extending the life of existing systems and establishing a **modular**, orchestrated approach for use in their replacement. The SOA foundation also makes greater use of new capabilities planned for the future. The challenge is to decrease complexity and increase utility of the overall processing architecture so that providers, members, workers, and other stakeholders can all share a 21st century user experience in the QHI framework (Figure 3).

The pillars represent major systems that produce considerable value in terms of both service provision and data collection. These “siloeed systems” are typically outsourced and have their own user interfaces, reporting capabilities, and other functions. Currently, these systems are outside the QHI initiative, because the funding, contracting, and ultimate system deliveries are conventionally separate projects. Kentucky’s QHI solves this problem with a solid foundation of integration. No successful health initiative can succeed without full integration of each system element. Additionally, QHI will be congruent with the mission of federal agencies to increase business process improvement and utilize automated data processing to support the programmatic outcomes of human service agencies.

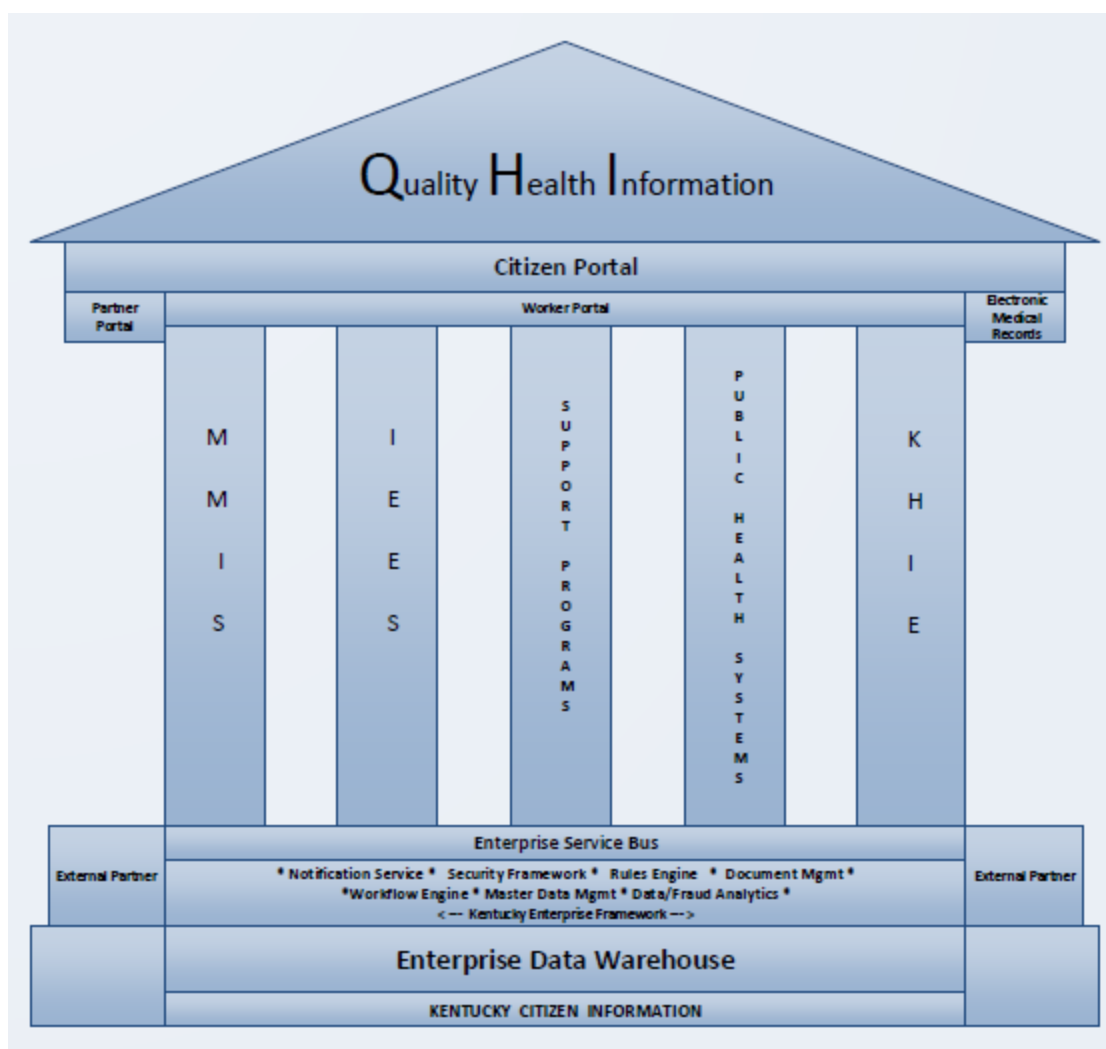


Figure 3. Quality Health Information

The mission of QHI and the eHealth IT architecture envisioned by the Commonwealth includes the following:

- Identify and implement better healthcare measures among the population and better manage healthcare costs.
- Create secure and seamless information exchange between healthcare entities to generate collaboration between all entities.
- Utilize data in determining policy, planning, and programs to maximize the potential of technology to the benefit of patients and Medicaid providers.

The SMHP identifies the challenges needed to improve healthcare in the Commonwealth. It includes vital tasks needed to achieve improved healthcare as follows:

- A seamless data exchange of information with the QHI framework.
- The optimization of managed care relationships and streamlined support for remaining FFS processes.
- SOA solutions comprised of components that integrate into the Commonwealth's SOA framework.

- Technology that meets CMS certification requirements.
- Comprehensive data management strategies that organize all of the data and enables easy access to information.
- Configurable, extendible, and cost-effective solutions to support Kentucky's future expansion of programs and populations, and to meet current and future regulatory needs.

Ongoing and future projects for KHIE include the following:

- A new HIE vendor, Deloitte, was procured on March 23, 2018. Design, development, and implementation (DDI) for the replacement HIE is underway. Launch of full capabilities of the new HIE vendor is set for April 30, 2019. A few of the expanded capabilities include: Single-Sign-On (SSO), enhanced customizable portal, new Master Patient Index (MPaI) solution, onboarding tools and many other enhancements to continue to meet the demands of a HIE in Kentucky.
- KHIE is working to integrate with eKASPER to streamline access for providers.
- Clinical document exchange for skilled nursing and home health providers (implementation, connectivity, virtual private network security certification, and annual facility fees).
- DDI of an MCI with the Commonwealth Office of Technology, which includes the development of a Master Provider Index (MPaI) and MPaI.
- The review and assessment for compliance with the Health Insurance Portability and Accountability Act (HIPAA) of 1996. This assessment, conducted by an external vendor, contains the validation of the National Institute of Standards and Technology 800-533 Appendix J privacy controls for KHIE and a technical vulnerability assessment of externally facing web applications and components spanning the entire KHIE infrastructure.
- Continued connection to the legacy HIE with Conduent (formerly Xerox). The Commonwealth intends on ending the connections to the legacy HIE by March 2019. Conduent is still needing to facilitate HIE while the new vendor is in the DDI phase of implementation.
- Establish additional External Data Representation connections. The KHIE HISP is DirectTrust accredited and able to exchange DSM.

The investment in this infrastructure and subsequent developments will establish the connections among disparate healthcare systems. This will significantly improve provider and patient leverage of health information. The result of this investment is the potential for transformation of healthcare in the Commonwealth at every level – from service to the public by state agencies, to providers of healthcare, and to patients actively engaged in their health outcomes.

3.1 Information Technology System Infrastructure

In order to achieve the SMA's HIT/E goals and objectives, KHIE has implemented the XDS.b functionality using IHE profiles. KHIE has labeled this level of connection the Platinum connection. This implementation allows true interoperability among disparate EHR systems both in state and across state lines. Allowing this communication among distinct EHR vendors and healthcare providers contributes significantly to the Health Information Technology for Economic and Clinical Health three-part aim (better care for individuals, better health for populations, and lower cost) among other benefits.

Interoperability among vendors continues to be a daily challenge even with the implementation of the Platinum connection, in that there are a number of vendors incapable of XDS.

To ensure adoption and MU of EHR technologies, the following items should be in place:

- The implementation of a statewide provider directory with national standards.
- The utilization of a standardized patient matching process.
- The establishment of rigorous EHR testing and certification which includes:
 - existing real-world testing scenarios with live systems, and
 - stronger, more specific standards with less variability.
- The reporting of electronic Clinical Quality Measures (eCQM).

HIE architecture is moving toward web-based applications and a common markup language for storing and exchanging EHRs. The Commonwealth is currently implementing a new and improved HIE solution. This will enable third party developers to bridge existing systems to future HIE applications using application programming interfaces. The Commonwealth recognizes the need to stay abreast of challenges such as interoperability, information flow and usage, the impact on delivery processes, and patient outcomes. The Commonwealth reflects this strategy in updates to the APD in order to explore and assess future HIE technology requirements. This will position the HIE to appropriately serve Kentucky's Medicaid population and play a leading role in improving the healthcare throughout the Commonwealth.

3.2 Medicaid Provider Interface with Electronic Health Record Incentive System

The SLR is available to support the registration of Kentucky providers who want to participate in the Kentucky Medicaid EHR Incentive Program (Promoting Interoperability). Transactions from the national level repository (NLR) are evaluated regularly to determine if providers are eligible and if payments have already been received.

Providers must first complete the NLR registration with CMS before registering for payments from the Kentucky Medicaid EHR Incentive Program (Promoting Interoperability). The NLR will transmit (or make available) transactions indicating that the provider registered and provided associated data for use by Kentucky Medicaid in administering its program. The SLR will include, but is not limited to, the following capabilities:

- Interfacing with the NLR
- Online data entry by providers
- Attestation module
- Workflow
- Payment processing

Ongoing planning, development, and implementation efforts are focused on making changes required to assist providers in meeting attestation requirements for Modified Stage 2 and Stage 3 MU requirements.

3.3 Health Information Exchange Governance Structure

The KHIE Coordinating Council is a forum for healthcare stakeholders to share their concerns, interests, and input on strategies. The Commonwealth continues to create a standards-based technology architecture that will allow data from KHIE and other CHFS systems to interface, enabling the reporting of both service-based and outcome-based results. This evolving analytics ability needs to be directed by a program area team responsible for data governance to ensure the proper policies are in place to manage sharing and distribution of data while preserving security and privacy.

3.4 Provider Adoption Encouragement

While providers are no longer eligible to register for the **EHR Incentive Program (Promoting Interoperability)**, DMS uses the KY REC as well as the KHIE Outreach Coordinators to continue provider adoption encouragement. The KY REC is hosting roadshows in four different regions of the state. These roadshows will prepare healthcare providers for the changes under the Medicare Access and Children's Health Insurance Program (CHIP) Reauthorization Act including Value-Based Payment approaches. The following topics will be covered:

- Quality Payment Program (QPP) eligibility
- QPP reporting metrics
- Improvement activities
- Advancing care information and MU
- HIPAA requirements
- Quality improvement

3.5 Federally Qualified Health Centers with Health Resources and Services Administration Health Information Technology/Electronic Health Record Funding

The Commonwealth has been working diligently to sign HIE participation agreements with FQHCs and establish HIE connectivity with FQHC providers. There are **25** FQHCs in the state of Kentucky, representing 177 provider locations. All of the FQHCs have signed KHIE participation agreements and **77%** of these centers are live and sharing data with KHIE. The remaining locations are in the onboarding queue.

The Commonwealth received a HRSA grant that established the KHCN. KHIE provides support and commits to assist the KHCN in achieving deliverables related to MU, public health reporting, and HIE. The State HIT Coordinator meets with the KHCN leadership on a regular basis to review progress on HRSA grant deliverables. The KHCN members represent nine different EHR vendors (Allscripts, eCW, NextGen, Greenway, Meditab, eMDs, Lavender & Wyatt, GE Centricity, and Digichart). There is ongoing progress with interoperability and sharing of data.

3.6 Technical Assistance for Medicaid Providers

The SMA contracts with the KY REC to provide technical assistance to Medicaid providers participating in the **EHR Incentive Program (Promoting Interoperability)**. The scope of this technical assistance includes the following:

- Education and outreach
- Gap analyses
- Action planning
- Group education services
- Attestation support services

KHIE supports the SMA through outreach services given to Medicaid providers by the Outreach Coordinators regarding the **EHR Incentive Program (Promoting Interoperability)**.

3.7 Unique Needs Population

The Commonwealth has plans for two unique populations (newborns and foster children). For newborns, the plan involves improving and expanding services through Kentucky Children (KYCHILD) data integration. For foster children, the plan involves expanding services and care through VHRs.

3.7.2 Kentucky Children Data Integration

Currently two sets of data are generated for newborns in the Commonwealth. Hospitals send blood samples (also known as blood spots) immediately to the state lab. Birthing facilities enter certificates of live birth information into the KYCHILD web application. Both sets of data require matching **results**.

Often, data is sent to the state lab before a baby is named. However, the KYCHILD web application requires that the newborn's full name be entered before hospital discharge. The KYCHILD birth data is given an identifier that is sent to the state lab to match lab and birth data. In instances where the state lab receives blood samples before the baby is named, the identifiers have to be matched manually. This requires three to four days and increases the risk of human error.

Newborns receive their first **H**epatitis B vaccination at the birthing facility. MU requires immunization data be transmitted to the KYIR. These initial immunizations are lost because the KYIR rejects messages when the data is from an unnamed newborn. The KYCHILD Data Project would automate mapping of state lab identifier and KYCHILD identifier through an interface between KYCHILD and KHIE. This would automate mapping of disparate identifiers, improve the data quality of the KYIR and KHIE and reduce, if not eliminate, errors.

3.7.3 **Virtual Health Records** for Foster Care

Health histories for foster children are often incomplete. This precludes a family health history that could be beneficial to a foster child. As well, natural-born children of parents who were foster care children are deprived of the family health history of generations prior to their parents. The Commonwealth plans to utilize the KHIE community portal to develop meaningful and complete medical records for the foster care population. This would enhance the coordination of care and improve health

outcomes. VHRs would also enable state agencies of the Commonwealth to meet full compliance with regulatory reporting requirements.

3.8 Health Information Technology-Related Grants

The TEFT grant allows the **OHDA** to work with the **ONC** to develop an interoperability standard for home and community based services. One of the goals is to demonstrate use of PHR systems with beneficiaries of CB-LTSS. This will leverage the **EHR Incentive Program (Promoting Interoperability)** by assisting providers to meet MU objectives.

Department for Aging and Independent Living will continue to partner with **OHDA** to implement the grant among the aging and physically disabled waiver population with plans that the tools could be used across programs. Patient electronic access, HIE and secure electronic messaging are MU objectives that the TEFT grant assist providers to meet.

3.9 State Legislation Outlook Relative to Electronic Health Record Incentive Program

At this time, the Commonwealth does not anticipate the need for new or existing changes in state law to continue **administering** the **EHR Incentive Program (Promoting Interoperability)**.

3.10 Other Issues

The largest barrier identified by providers and hospitals is the cost of moving data out of their systems. This can come from an EHR interface fee, ongoing interface costs, contracted IT services, and/or lack of experienced IT professionals in rural regions. Although cost is a major barrier across all healthcare organizations, non-MU providers are hit hardest by these constraints due to the lack of incentive funding. We have requested funding through the HIT Annual APD #9 to develop a provider assistance program that will provide financial assistance to offset these expenses. SMD letter 16-003 provides guidance to allow non-eligible providers access to support MU professionals and hospitals.

In addition to cost barriers, the lack of provider education on state interoperability resources continues to be an obstacle in achieving connectivity. The Participant Services Managers, housed in KHIE, are one solution to this obstacle. They will be educating providers on statewide interoperability opportunities and will facilitate onboarding to the HIE. This connection to the HIE will support other statewide initiatives including:

- data analytics,
- Medicaid Enterprise Management System (MEMS),
- the 1115 Waiver program, and
- the Opioid Use Disorder/Substance Use Disorder (OUD/SUD) component.

SECTION C: KENTUCKY'S ADMINISTRATION AND OVERSIGHT OF THE ELECTRONIC HEALTH RECORD INCENTIVE PAYMENT PROGRAM

4 Verification of Non-Sanctioned, Properly Licensed/Qualified Providers

The SMA verifies the provider is properly licensed in the preliminary and eligibility review queues and the provider holds no sanctions by verifying the provider's status with the state licensure board, the OIG, and the System for Award Management.

4.1 Verification Process of Hospital-Based Eligible Professional

In order to verify if an eligible professional (EP) is hospital-based, encounter data is analyzed for the reporting period with the provider's National Provider Identifier (NPI) in the rendering provider field, specifically looking at place of service 21/23 submitted on their claims. Queries extracted from the DSS report findings on both total Medicaid encounters submitted by the provider, as well as the claims rendered under the place of service, are reported as 21/23. A calculation is performed against the data returned from DSS query to determine if the returned results total 90% or above. If the percentage is 90% or greater, the provider will be deemed as hospital-based and ineligible to receive incentive payments.

4.2 Process for Verifying the Overall Content of Provider Attestations

Provider attestations go through a stringent pre-payment review process that entails review for eligibility, patient volume, CEHRT, eCQM, and public health reporting program requirements.

To check for eligibility, the applicant's name, NPI, and Tax Identification Number are verified against the MMIS to match enrollment data, to verify licensure is active, and confirm the provider is not on the death file.

To verify the provider meets patient volume requirements, the DSS is queried using the providers NPI (individual NPI is used if group option is not selected), the patient volume start date, and patient volume end date. The volume percentage is calculated using the queried results divided by the total patient encounters submitted on the attestation.

To validate CEHRT and public health reporting, the provider submits supporting documentation along with attestations for the following:

- Documentation for the CEHRT ID including a legally binding agreement for the Certified EHR Technology; and
- Public health reporting supporting documentation including a copy of the signed participation agreement, confirmation form, or Go-Live form distributed from KHIE.

EHR staff verifies program requirements are met for attestations of eCQM; and confirms the provider's public health reporting status by looking the provider up in the KHIE SharePoint site. If at any point during the queue reviews the provider does not meet a requirement, the EHR team emails the provider to attempt to resolve the discrepancy.

Once the queue reviews are completed, the provider's attestation is added to an overall queue for a final review. During the final review process, each queue review is verified for appropriate responses and comments before deeming the provider eligible for payment. If at any point during the overall final review the provider does not meet the requirements, the provider's attestation is rejected from the overall queue and the provider is not eligible for payment for that program year.

4.3 Communication to Providers Regarding Eligibility and Payments

When the provider is deemed eligible from the preliminary queue, the provider receives an automated email notification that it can attest to the program. After the attestation review is complete, the payment is processed at the state level, and another automated email is sent to the provider regarding the payment.

4.4 Patient Volume Calculation Methodology

In calculating patient volume, all Medicaid encounters for the provider are considered, including medical, pharmacy, and Medicare crossovers, for dates of service within the 90-day period designated by the provider. A Medicaid encounter is defined as any service rendered on any one day to an individual enrolled in a Medicaid program whether or not Medicaid had a financial interest in the services that were rendered. If a Medicare crossover claim is submitted and pays \$0.00, and it is determined that the member was participating in Buy In on the date of service, then the claim is considered as an encounter. Adjustment claims are not included in the calculation. Claims submitted by the provider are considered if the provider is the rendering provider or the billing provider.

Member encounters are counted as one unique encounter per member per day. If a member sees the same provider twice in a day (and two separate claims are submitted), it is counted as one encounter. Multiple claim detail lines on one claim submission are counted as one encounter. Member eligibility in Title XIX is confirmed (Title XXI is excluded) and only claims submitted for Title XIX are counted toward the encounter calculation.

4.5 Data Sources for Patient Volume Verification

Kentucky utilizes data points in the MMIS DW as the source data to verify patient volume for **EPs** and employs the patient encounter methodology to verify patient volume for both. Data is collected directly from providers during outreach calls to perform a secondary review of the data in the event of a discrepancy regarding an attestation under review.

4.6 Verification that Eligible **Professional at Federally Qualified Health Center/Rural Health Clinic Meet Requirements**

The MMIS is used to determine the EPs in FQHCs and Rural Health Clinics. These provider types must be enrolled in the Kentucky Medicaid program as an FQHC in order to participate in the **EHR Incentive Program (Promoting Interoperability)**. Enrollment for these providers is verified through the MMIS.

4.7 Verification of Meaningful Use

The CHFS EHR team reviews the data attested by the provider to ensure the provider meets the EHR certification system requirements for the **KY EHR Incentive Program (Promoting Interoperability)**.

The web application validates and verifies the certification ID entered during the provider's attestation is a valid CEHRT ID. The CEHRT ID is verified at the ONC Certified HIT Product List website that the CEHRT is interoperable with the public health measures selected within attestation. CHFS looks for any legally binding documents attached to the attestation that show the provider or practice has a certified EHR system such as a contract, invoice, purchase order, or other legally binding document. In the event the provider has used a certified EHR that is a no cost web-based system, every effort is made to capture as much credible data as possible (for example, the combination of a letter from the vendor and a license or user agreement).

Another step in the verification process includes **attesting to eCQM requirements, in addition to confirming** that the provider has completed and signed the KHIE participation agreement and appropriate addendum(s) for public health measures. The KYIR, CDC NSSP BioSense Platform, KCR, KHIE Advance Directive Registry, Kentucky's NEDSS, and KHIE as a registry are public health measures available to Kentucky Medicaid providers attesting to MU.

4.8 Proposed Changes to Meaningful Use Definition

In accordance with 42 **CFR** 495.316 (d) (2) (iii), Kentucky proposes to change the Stage 3 Public Health measure regarding the definition of syndromic surveillance objective. Kentucky has worked diligently to onboard all EPs to the Syndromic Surveillance Registry. As of **August 28, 2018, 771** providers are live with ambulatory feeds and **207** more providers are in process. The CDC wants to continue to receive data from ambulatory settings, as it is still valuable information. **As previously approved in the 2017 Annual Update, the Commonwealth is requesting continued** permission for EPs (in non-urgent care settings) to be eligible to attest to syndromic surveillance under Objective 8, Measure 4 Public Health Registry Reporting for MU Stage 3.

Providers will be notified of this change by using the RECs and KHIE Outreach Coordinators, posting to the EHR and KHIE websites, including notice in the monthly EHR Fact Sheet, sending an email blast from the KHIE subscription list serve, and updating the public health reporting guidance documents.

Verification of this reporting would be conducted the same as other public health measures. The active engagement status would be verified by reviewing the provider's attestation selection along with the supporting documentation received by KHIE as well as looking up the provider's status in the KHIE SharePoint site. KHIE documentation includes a copy of the signed participation agreement (satisfies option 1), **testing and validation** form (option 2), or Go-Live form (option 3).

4.9 Collection of Meaningful Use Data of Certified Electronic Health Record Technology

The SMA will collect providers MU data, including the **eCQM** by following the provided recommendations. Currently, **eCQM** data is collected through **manual entry or**

electronic submission attestation; however, in the long-term, eCQMs will be collected through KHIE.

KHIE has implemented a participant database used to manage and track participant's progress toward public health reporting and usage of other KHIE services. The SMA uses the participant database, **which is** housed in SharePoint to verify MU attestations.

4.10 Alignment of Data Collection and Analysis with **Electronic Clinical Quality Measures Data**

The Commonwealth follows recommendations by CMS and ONC for collecting MU data, including eCQMs from Medicaid providers participating in the **EHR Incentive Program (Promoting Interoperability)**. The Commonwealth is aligning the collection of the current eCQMs used by the Kentucky Medicaid program for program monitoring and reporting with eCQMs collected from Medicaid providers participating in the **EHR Incentive Program (Promoting Interoperability)**.

Part of this alignment will be the analysis of eCQMs captured through provider EHRs and comparing to eCQMs derived from Medicaid encounter data. The alignment of the eCQMs by DMS includes adult Kentucky Medicaid members and children enrolled in Kentucky CHIP.

4.11 Information Technology, Fiscal and Communication Systems Used to Implement the Electronic Health Record Incentive Program

The SLR, which went live in 2011, is currently active.

4.12 Necessary Information Technology Changes for Electronic Health Record Incentive Program

The Commonwealth continues to implement system changes in response to new federal rules governing the **EHR Incentive Program (Promoting Interoperability)**.

4.13 Information Technology Timeframe for Systems Modifications

The Commonwealth reviews system change requirements and coordinates them with the annual HIT APD. The SLR will be modified to support utilization of the Kentucky Online Gateway single sign-on solution and an MCI, after MPPA **was** available for public access in **September** 2018. This will allow the Commonwealth to implement the enterprise SSO solution for the **EHR Incentive Program (Promoting Interoperability)** expeditiously. The Commonwealth will extend these solutions across all systems in the Kentucky Medicaid enterprise. The MCI will contain two specific indices: the MPrI and MPaI. In the long-term vision, Kentucky will also extend these solutions to the future replacement MMIS (also known as **the Core solution**) using the QHI integration framework. Outlined in Figure 4 is a high-level timeline for the development of these solutions.

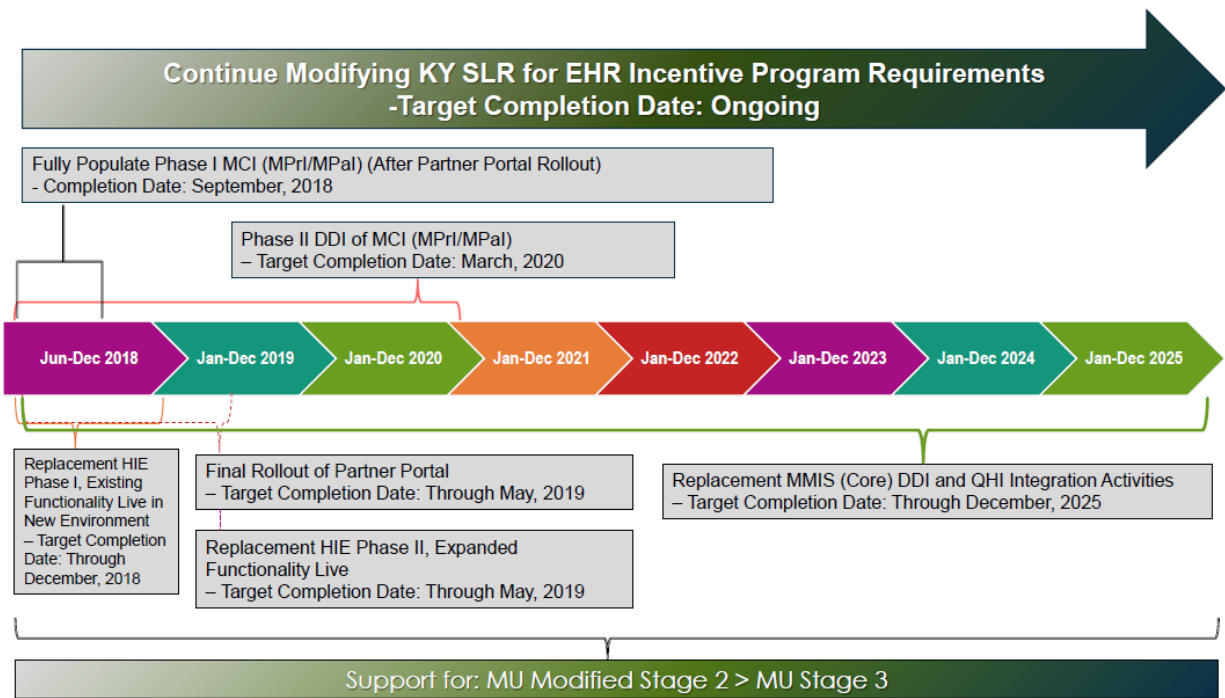


Figure 4. High-Level Timeline for Information Technology Systems Modifications

4.14 Timeframe for Test Readiness with the National Level Repository

Implementation is ongoing. Kentucky communicates and exchanges data through the NLR based on the timelines within the Commonwealth's file processing schedule.

4.15 Plan for Accepting Registration Data from National Level Repository

The SLR is the interface to the NLR for purposes of receiving Medicaid provider registration data and performing eligibility matches to ensure Medicaid providers are eligible to participate and receive incentive payments. Files are received and exchanged with the NLR daily through file transfer protocol. The NLR sends B-6 files that include registration data for program participation.

4.16 Website for Provider Enrollment and Program Information

Kentucky Medicaid providers participate in the EHR Incentive Program (Promoting Interoperability) by logging onto the CMS registration site and submitting their registration. As of program year 2016, providers are no longer eligible to enroll, only transfers are able to join Kentucky's program. For program information, DMS deployed a website found at <https://chfs.ky.gov/agencies/dms/ehr/>.

4.17 Electronic Health Record Incentive Payment Program Queues Automation Project

CHFS developed the Kentucky EHR Incentive Program (Promoting Interoperability) with in-house staff and they continue to maintain ongoing technical support. Past changes to the MMIS and KHIE for the EHR Incentive Program (Promoting Interoperability) included the development of new, automated volume queue-related services, database interfaces for provider-related information, and payment-related information. Continuing enhancements include using the established connection to the

MMIS to automate the preliminary and eligibility queues. Funding for this request is included in the HIT APD.

4.18 Call Centers/Help Desk Support for Incentive Program Questions

Help desk support comes from the EHR team, who receives and responds to calls and other forms of correspondence (email and letters) using the existing MITA Manage Provider Communications business process standard. The Kentucky **EHR Incentive Program (Promoting Interoperability)** team uses workflows, established processes, and business rules to ensure the Commonwealth is able to assist providers participating in the program. Standard procedures and FAQs are updated for consistency to support implementation and ongoing incentive program operations.

4.19 Provider Appeal Process Relative to the Incentive Program

If a provider disputes an incentive payment, a determination regarding the demonstration of MU of EHR technology, or an overpayment amount, the provider may initiate the administrative appeals process in accordance with 907 KAR 6:005. The administrative appeals process consists of a dispute resolution meeting and an administrative hearing. A timely filed request for the administrative appeal process will stop the recoupment activities by DMS pertaining to the issues on appeal until the administrative appeal process is final. The provider must first request a dispute resolution meeting. If DMS, after the dispute resolution meeting and reviewing all documentation submitted, determines that no adjustments are required, the initial determination will stand. If DMS determines the provider is due a payment, DMS will issue payment following exhaustion of further appeal rights. If DMS determines the provider owes an overpayment, DMS will collect following exhaustion of further appeal rights. A provider has the right to appeal a determination from the dispute resolution to an administrative hearing. Upon conclusion of the administrative appeals process, if the provider is due a payment, DMS will issue a payment. DMS will collect if an overpayment is upheld. Payment amounts that need to be collected are refunded to CMS through the appropriate CMS-64 adjustment.

4.20 Process for Separate Accounting of the Health Information Technology for Economic and Clinical Health Act Provisions and Medicaid Management Information System Federal Financial Participation

The Commonwealth uses the enhanced Management Accounting and Reporting System (eMARS) for all fiscal transactions. Through eMARS, each category of payment is set up with a unique accounting template, which includes the specific information for that fund and transaction type, including source and FFP. Additionally, eMARS uses object codes for each payment type. This creates a check and balance by allowing the Commonwealth's accountants to match payment types against payment sources. Through eMARS, reports are run against the selected templates allowing the Commonwealth to separately report on the CMS-64 report between lines 24C and D (in-house/contractors) for administrative expenditures and lines 24E and F (professionals/hospitals) for incentive payments.

4.21 Anticipated Frequency for Electronic Health Record Incentive Payments

EHR incentive payments are made to EPs and **eligible hospitals (EHs)** on a weekly basis.

4.22 Direct Payments to Provider or Assignee without Deduction or Rebate

Direct payments are made to the provider or assignee without Medicaid deduction or rebate. Upon the submission of a successful attestation, the KY SLR system calculates an estimated incentive payment amount. At this stage in the process, the attestation documentation also undergoes a prepayment audit to verify the provider is eligible to participate in the program. The SMA also passes the D-16 file to CMS for ensuring the provider has not received an incentive payment from any other state. After verifying this data with CMS, the Commonwealth initiates the check writing process for the EHR Incentive Payment Program. The business rules and processes for issuing incentive payments to Kentucky Medicaid providers participating in the Kentucky **EHR Incentive Program (Promoting Interoperability)** have been established for the express purpose of separating these payments from any other type of agency reimbursements to Kentucky Medicaid providers. This process involves a scheduled time on a weekly basis that eliminates conflicts with other payments.

4.23 Hospital Calculations and Eligible **Professional Incentive Payments Made Consistent with Statute and Regulation**

The Commonwealth has ensured that all hospital calculations and EP payment incentives are consistent with statute and regulation. Due to the stringent pre-payment review process, there are no negative audit findings to report. There are no changes in current process.

4.24 Existing Kentucky Contractor's Role in Electronic Health Record Incentive Payment Implementation

The Commonwealth augments state staff with contractors to facilitate the **EHR Incentive Program (Promoting Interoperability)**. State and contract staff provide oversight of the program and serve as project managers, developers, architects, business analysts, and other IT support staff.

4.25 Kentucky Assumptions

Kentucky assumes the following:

- CMS will ensure that appropriate CEHRT testing is complete by EHR vendors through the ONC.
- Clear and concise guidance will be provided by CMS in a timely manner.
- Appropriate documentation will be provided by CMS in a timely manner.
- Access to **the** NLR and access to individual attestations will be made available.
- Definition of MU objectives that leverage the state HIEs.

SECTION D: OVERVIEW OF KENTUCKY'S AUDIT STRATEGY

The audit strategy is not included within this SMHP, as the Commonwealth publishes the CMS approved version of the SMHP on the EHR website for public inspection. DMS maintains specifics of the Detailed Audit Plan in a separate document. The audit plan is in the process of being updated to include program years 2016-2018, and is anticipated to be submitted to CMS by December 31, 2018.

SECTION E: KENTUCKY HEALTH INFORMATION TECHNOLOGY ENTERPRISE

5 “As-Is” Today and Five-Year “To-Be”

Medicaid modernization is a high priority for the Commonwealth. Kentucky’s vision for its MEMS program is to implement a web-based, flexible, and modular MMIS that aligns with MITA 3.0 framework requirements for enhanced federal funding. The four components of this framework are as follows:

- business architecture,
- information architecture,
- technical architecture, and
- **Standards and Conditions** for enhanced federal funding.

DMS currently operates a MMIS that was implemented in 2007 in support of what was then a FFS Medicaid program. CHFS is in the process of transforming the Medicaid enterprise and seeks to implement new systems and processes that improve interoperability and align with the CMS MITA framework. Figure 5 illustrates the major trading partners, systems, and service providers comprising the Kentucky Medicaid Enterprise and demonstrates how the MMIS process flows throughout the HIT enterprise.

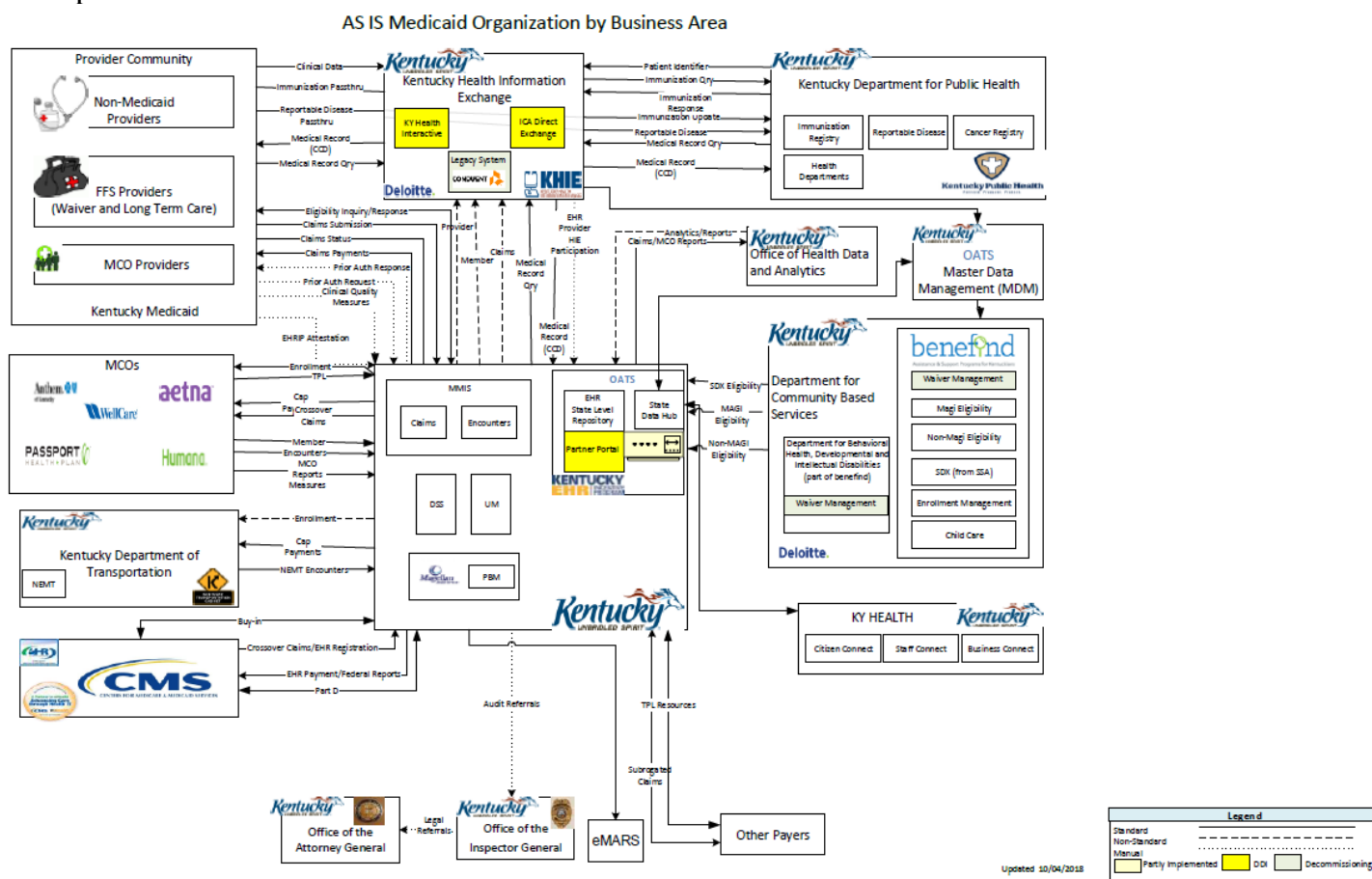


Figure 5. Kentucky “As-Is” Medicaid Enterprise

While portions of the enterprise that were once high volume are more automated (including claims, electronic data interchange, and commercial trading partner exchanges) there are still significant improvements to be made with new automation and interoperability to support the Kentucky Medicaid Enterprise. The new MEMS Request for Proposal solution and procurement will be aligned with the MITA 3.0 framework, CMS's **Standards and Conditions**, and the Kentucky QHI initiative.

The QHI facilitates the implementation of technology standards and approaches for the development of an interoperable, scalable, and easily adaptable cross-sector technology framework. The QHI is built on a solid foundation of sharable technical services and a common enterprise service bus functionality with various applications. It is a forward-thinking model for electronic exchange of health information seamlessly across the Medicaid Enterprise. It includes plans to provide the technology and tools for capturing, analyzing, and reporting performance measures on the quality of service delivery and the health outcomes of Medicaid members, as well as overall healthcare throughout the Commonwealth. Currently, communication between systems is difficult, as is aggregation and correlation of data in the enterprise. Therefore, CHFS adopted the QHI framework to promote interoperability, reusability, and sharing of information throughout the enterprise as well as across organizational boundaries.

For example, the Kentucky HEALTH plan (1115 Waiver) will strengthen Kentucky's workforce and improve health and well-being with a foundation of an enterprise data warehouse (EDW) platform that will provide a central repository of data to be used by Kentucky Medicaid business areas.

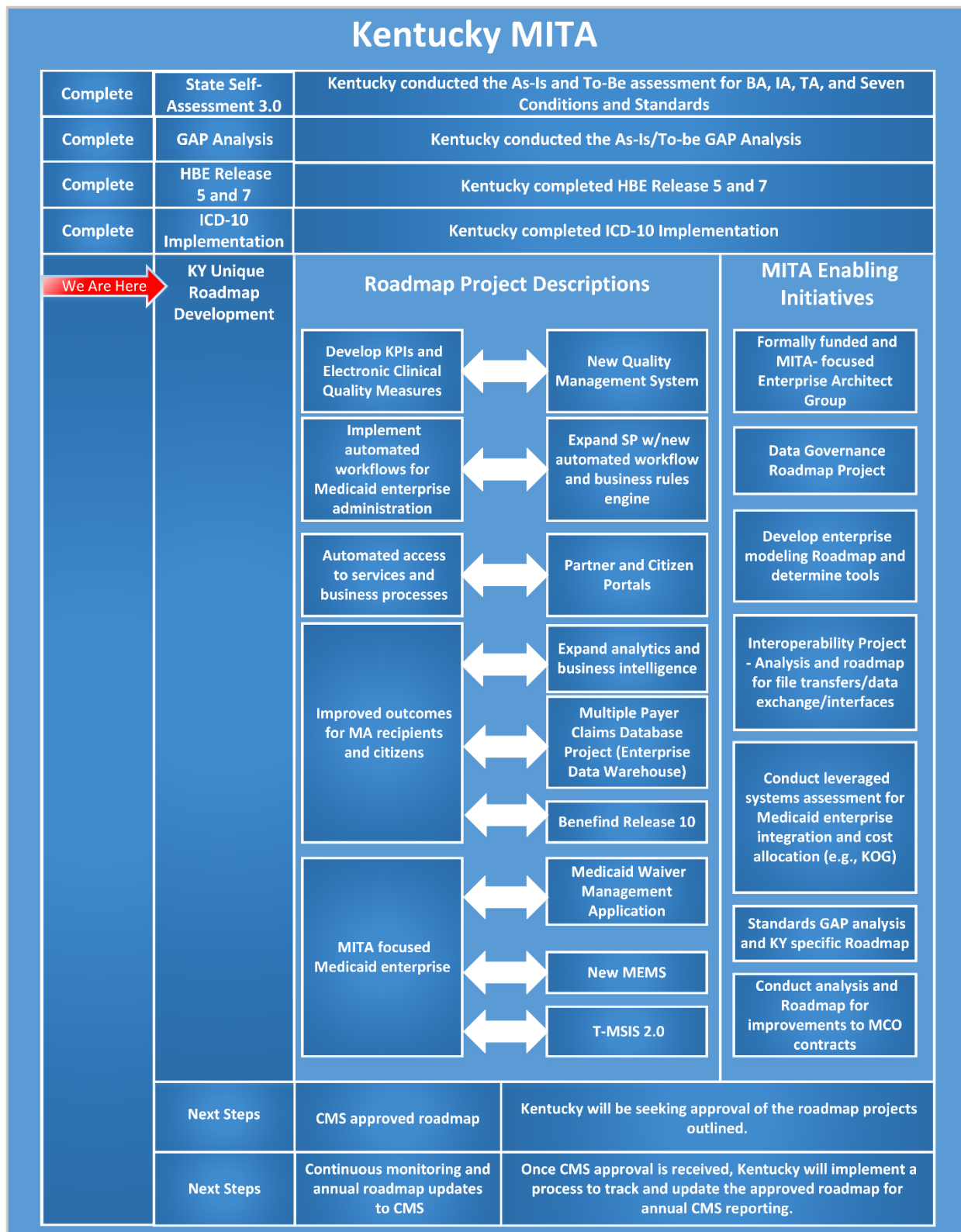
In the future, Kentucky intends to add more standards and real-time exchanges. In particular, the eligibility interfaces will begin using standards, such as the 834-transaction set. The future will also see the expansion of Kentucky's data analytics and business intelligence capabilities, with the addition of the Kentucky Health Data Trust, and expansion of the inputs and scope of analytic functions. Another example is the non-emergency medical transportation (NEMT) services, which are provided by brokers throughout the state and by the Transportation Cabinet. Figure 6 illustrates Kentucky's "To-Be" Medicaid Organization by Business Area.



- Web-based access to services and business functions that will result in:
 - Stakeholders (providers, members, plans, partners, and agency staff) with easy access to information with a user experience that is on par with the best public and private systems.
 - The final rollout of MPPA that will provide self-service enrollment and data management functions to all providers by an anticipated date of **May 31, 2019**.
 - New MEMS Operations Management, Encounters Management, and DSS/DW.
 - The implementation of the 1115 Health Waiver. The first of 1115 Waiver changes **were** within **IEES** release 10 **on December 22, 2017**. The waiver includes an innovative delivery system for Kentucky HEALTH members designed to strengthen Kentucky's workforce and improve health and well-being.
- Expediting of complete business processes that will involve the following:
 - A workflow engine for tasks that previously were non-automated by any system.
 - An enterprise modeling for processes and data structures oriented around the MITA business processes.
 - A time component Key Performance Indicator (KPI) to each process and in some cases, individual steps within the process.

- Improved business intelligence with the ability to identify trends and to respond expediently with policy and system changes through the following:
 - An increase in the number of data sources available to the analytics process.
 - New MEMS Operations Management, Encounters Management, and DSS/DW.
 - Adoption of a technical architecture that is change friendly for policy execution.
 - Adoption of KPI for policy validation.
 - Use of an analytics contract to perform outcomes analysis.
 - The 1115 Waiver will strengthen Kentucky's workforce, and improve health and well-being with a foundation of an EDW platform that will provide a central repository of data to be used by the Kentucky Medicaid business areas.
- Positive health outcomes for Medicaid members through the following:
 - Improvements in contracting for specific outcomes with MCOs.
 - Expanded data contractually required for submission by MCOs to include both standard and state specific measures.
 - Expanded editing of encounters and the expanded data set.

Figure 7 is a graphic representation of the Kentucky Medicaid enterprise roadmap included in the MITA 3.0 SS-A.



**Figure 7. Medicaid Information Technology Architecture State Self-Assessment Roadmap
Federal Fiscal Year 2017 – Federal Fiscal Year 2020**

5.1 Kentucky's Expectation for Electronic Health Record Adoption Over Time

The SMA plans to enhance provider EHR adoption and MU rates annually with a specific focus on reaching rural healthcare providers. Enhancing broadband capabilities in the Commonwealth through the KentuckyWired initiative will help to improve MU and EHR adoption. With the success of its broadband initiative, Kentucky does not qualify for CMS's broadband speed exception because all counties have a minimum 4 Mbps connection speed.

Current ONC certification standards (including the ability to certify modules) have created an environment where providers still may not be able to participate in KHIE because their EHR vendor does not support interoperability with HIEs. The expectation is that future ONC certification standards will resolve these interoperability issues.

5.2 Annual Benchmarks for Goals

The EHR Incentive Program (Promoting Interoperability) team will continue to pay as many program EPs as possible. At a minimum are the following milestones and annual goals:

- Milestone 1 - Sign a total of 400 MPPs for attestation services as follows:
 - 320 MPPs per year who participated in the Kentucky Medicaid EHR Incentive Program (Promoting Interoperability) in prior years, including 2017.
 - 80 Non-returning MPPs per year who participated in prior years but did not participate in the 2017 program year.
- Milestone 2 - Conduct gap analyses, develop action plans, and provide group education for 400 MPPs each year.
- Milestone 3 - Provide attestation support services for 400 MPPs each year.

5.3 Annual Benchmarks for Audit and Oversight Activities

Audits will follow existing CHFS internal audit policies for planning, audit supervision, development for audit findings, and work papers. The number of audits and any sampling methodology used will be determined based on the volume of providers receiving Kentucky EHR Incentive Program (Promoting Interoperability) payments.

6 APPENDICES

6.1 Appendix A: List of Acronyms, Definitions and Initialisms

A list of acronyms used throughout this document are as follows:

Acronym	Definitions
B-6	Electronic Health Record registration file
APD	Advance Planning Document
ARRA	American Recovery and Reinvestment Act of 2009
CAI	Community Anchor Institutions
CAM	Cost Allocation Methodology
CB-LTSS	Community-Based Long-Term Services and Supports
CCD	Continuity of Care Document
CDC	Centers for Disease Control and Prevention
CEHRT	Certified Electronic Health Record Technology
CFR	Code of Federal Regulations
CHFS	Cabinet For Health and Family Services
CHIP	Children’s Health Insurance Program
CMS	Centers for Medicare & Medicaid Services
Commonwealth	Kentucky is designated a commonwealth by the Kentucky Constitution and is known constitutionally as the “Commonwealth of Kentucky”.
DDI	Design, Development, and Implementation
DMS	Department for Medicaid Services
DPH	Department for Public Health
DSL	Digital Subscriber Line
DSM	Direct Secure Messaging
DSS	Decision Support System

Acronym	Definitions
DW	Data Warehouse
eCQM	electronic Clinical Quality Measures
EDW	Enterprise Data Warehouse
EH	Eligible Hospital
EHR	Electronic Health Record
eKASPER	enhanced Kentucky All Schedule Prescription Electronic Reporting System
ELR	Electronic Laboratory Reporting
eMARS	enhanced Management Accounting and Reporting System
EMR	Electronic Medical Record
EP	Eligible Professional
ER	Emergency Room
FFP	Federal Financial Participation
FFS	Fee-for-Service
FFY	Federal Fiscal Year
FQHC	Federally Qualified Health Centers
HIE	Health Information Exchange
HIPAA	Health Insurance Portability and Accountability Act of 1996
HISP	Health Information Service Provider
HIT	Health Information Technology
HIT/E	Health Information Technology/Exchange
HRSA	Health Resources and Services Administration
IEES	Integrated Eligibility and Enrollment System
IHE	Integrating the Healthcare Enterprise

Acronym	Definitions
IHS	Indian Health Services
IT	Information Technology
KAR	Kentucky Administrative Regulation
KCR	Kentucky Cancer Registry
KHCN	KY Health Center Network
KHIE	Kentucky Health Information Exchange
KPI	Key Performance Indicator
KY REC	Kentucky Regional Extension Center
KYCHILD	Kentucky Children
KYIR	Kentucky Immunization Registry
Mbps	Megabits Per Second
MCI	Master Client Index
MCO	Managed Care Organization
MEMS	Medicaid Enterprise Management System
MITA	Medicaid Information Technology Architecture
MMIS	Medicaid Management Information System
MPaI	Master Patient Index
MPP	Medicaid Participating Provider
MPPA	Medicaid Partner Portal Application
MPrI	Master Provider Index
MU	Meaningful Use
NEDSS	National Electronic Disease Surveillance System
NEMT	Non-Emergency Medical Transportation

Acronym	Definitions
NLR	National Level Repository
NPI	National Provider Identifier
NSSP	National Syndromic Surveillance Program
OHDA	Office of Health Data and Analytics
OIG	Office of the Inspector General
ONC	Office of the National Coordinator
PCDH	Patient Centered Data Home
PHR	Personal Health Record
PI	Division of Program Integrity
QHI	Quality Health Information
QPP	Quality Payment Program
REC	Regional Extension Center
RHIO	Regional Health Information Organizations
SLR	State Level Repository
SMA	State Medicaid Agency
SMHP	State Medicaid Health Information Technology Plan
SOA	Service-Oriented Architecture
SS-A	State Self-Assessment
SSO	Single-Sign-On
TEFT	Testing Experience and Functional Tools
VHR	Virtual Health Record
XDS.b	Cross-Enterprise Document Sharing

6.2 Appendix B: KY State Level Repository Screenshots for Meaningful Use Stage 1

This addendum documents the KY SLR 2013 system modifications for MU Stages 1. It was submitted to CMS as part of the previous Kentucky SMHP in December 2012. Kentucky received approval from CMS for this submission on January 15, 2013. The Commonwealth maintains this documentation and a copy of this appendix has been submitted to CMS as part of this SMHP update on a CD-ROM due to the large file size, which prohibits electronic submission of the document.

6.3 Appendix C: KY State Level Repository Screenshots for Meaningful Use Stages 1 & 2

This addendum documents the KY SLR 2014 system modifications for MU Stages 1 & 2. It was submitted to CMS as an addendum to the previous Kentucky SMHP in December 2013. The Commonwealth maintains this documentation and a copy of this appendix has been submitted to CMS as part of this SMHP update on a CD-ROM due to the large file size, which prohibits electronic submission of the document.

6.4 Appendix D: State Medicaid Health Plan Certified Electronic Health Record Technology, Program Year 2014 Flex Rule

This addendum documents the KY SLR system modifications made to the SLR in response to the CEHRT Flex Rule. The Commonwealth submitted this appendix to CMS for review and approval in October 2014 as part of the previous Kentucky SMHP. The Commonwealth submitted a revised copy of this document in response to CMS comments on November 7, 2014 and received approval from CMS on March 5, 2015. The Commonwealth maintains this documentation and a copy of this appendix is available for review upon request.

6.5 Appendix E: KY State Level Repository Screenshots for Meaningful Use Modification Stage 2 and Stage 3 Rule Program Year 2015

This addendum documents the KY SLR system modifications made to the SLR in response to the Modification Stage 2 and Stage 3 Final Rule. The Commonwealth submitted this appendix to CMS for review and received approval in March 2016. The Commonwealth maintains this documentation and a copy of this appendix is available for review upon request.

6.6 Appendix F: KY State Level Repository Screenshots for Meaningful Use Modification Stage 2 and Stage 3 Rule Program Year 2016

This addendum documents the KY SLR system modifications made to the SLR in response to the Modification Stage 2 and Stage 3 Final Rule. The Commonwealth submitted this appendix to CMS for review and received approval in December 2016. The Commonwealth maintains this documentation and a copy of this appendix is available for review upon request.

6.7 Appendix G: KY State Level Repository Screenshots for Meaningful Use Modification Stage 2 and Stage 3 Rule Program Year 2017

This addendum documents the KY SLR system modifications made to the SLR in response to the Modification Stage 2 and Stage 3 Final Rule. System changes between 2016 and 2017 and were not significant enough to warrant CMS approval.

The Commonwealth maintains this documentation and a copy of this appendix is available for review upon request.